

## **STUCCO LATH WITH STUD SPACING INDICATORS**

### **Description**

#### **Background of the Invention**

#### **Field of the Invention**

5           The present invention relates to welded wire and woven wire fabric lath that is used with cementitious exterior wall coating systems, and particularly to an improvement of stud spacing indicators applied to or built into the welded wire and woven wire fabric lath.

#### **Description of the Prior Art**

10           In stucco-faced wall constructions, the barrier sheet materials that have traditionally been used are asphalt impregnated rag felts and water-resistant papers such as asphalt saturated kraft paper. Another barrier sheet that has more recently been used in stucco-faced frame construction is TYVEK.RTM. spunbonded polyethylene sheet. The barrier sheet material can be stapled, nailed or glued to the studs, or applied to the back of  
15 the welded wire lath, thereby concealing the studs from view. When a metal lath, such as a self-furred hexagonal woven wire lath ("chicken wire") or a welded wire fabric lath, is applied over the barrier sheet and attached to the studs with staples or furring nails, the installer is required to spend time measuring the position of the concealed studs.

          Prior art U.S. Patent #1,569,144, issued 1/12/1926 to Scammell, a metallic lathing  
20 with a backing sheet that has lines indicating the location of concealed studs, which assist in securing the lathing to the studs without guesswork.

          Prior art U.S. Patent 3,991,536, issued 11/16/1976 to Rutherford, provides an improved welded wire fabric lath including a double strand of wire located at

predetermined spaced intervals. The wires of the double strand are spaced slightly apart to provide a slot for receiving fasteners used to hold the lath in place on wood and metal framing. In a self furring embodiment of the lathing according to the present invention, the double strand is located along the interval corresponding to the crimping or ribs  
5 provided to space or fur the lathing from the framing. Self-threading fasteners of a modified design for use with the lathing also comprise a part of the present invention.

Prior art U.S. Patent #1,712,125, issued 5/7/1929 to Voight, indicates a wire lath having a series of recessed nodes with sheet metal or clips for nailing the lath to supports with the nodes spaced apart to align with the supports.

10 Prior art U.S. Patent #5,950,319, issued 9/14/1999 to Harris, shows construction materials such as 4-foot by 8-foot sheets of plywood, drywall, and similar materials have fiducial markings for quick visual reference of the user. Imprinted lines of equal spacings indicate to the user the location of wall studs at 16-inch or 24-inch spacings, and the sheet of material can also include oblique lines and one or more circles, for reference of the  
15 user in quickly determining the size of remnants. Similar markings may also be applied to roll-stored materials such as carpeting.

Prior art U.S. Patent #4,927,696, issued 5/22/1990 to Berg, indicates material for use in fabrication that has reference markings spaced uniformly such that the markings can be used for measurement.

20 Prior art U.S. Patent #6,012,255, issued 1/11/2000 to Smid, provides a construction board that has a number of marks or lines which facilitate the installation of such board to a number of supports in a building, house or the like. Such lines may have a

number of different arrangements. For example, the lines may be arranged as a plurality of substantially horizontal and/or vertical lines which have a predetermined distance or distances therebetween. Such distance or distances may correspond to the standard spacing between supports (such as 16 or 24 inches). Alternatively the spacing between  
5 lines may have a relatively small value, such as 1/2 of an inch, 1 inch, 1 1/2 inches, 2 inches or the like. Additionally, adjacent lines may have respective characteristics (such as different colors) so as to easily distinguish between adjacent lines. As a result, a worker may easily install a construction board in a relatively small amount of time and the number of fasteners (nails, screws, or the like) which "miss" a support member may  
10 be eliminated or reduced.

Prior art U.S. Patent Application #20030029120, published 2/13/2003 by Sacks, puts forth a self-stiffened welded wire lath assembly, which is self-furring wire and has stiffening trusses. In a preferred embodiment the lath comprises a grid of intersecting transverse and longitudinal wires welded at their intersections. Stiffening trusses are  
15 formed at bent sections in the transverse wires by first longitudinal wires affixed at the shoulders of the bent sections and second longitudinal wires affixed on the bent sections. A barrier layer is disposed between the first and second longitudinal wires. A building paper backing may be affixed to the barrier layer. The lath reduces cracking and wastage of stucco while remaining easy to work with.

20 Prior art U.S. Patent #5,540,023, issued 7/30/1996 to Jaenson, is for a self-furring, welded wire lathing including a flexible paper support material disposed substantially in a vertical plane and having horizontally spaced-apart openings cut therethrough. The

openings are arranged in parallel horizontal rows, with the spacing between adjacent openings in each horizontal row defining intervening webs of support paper therebetween. A metal reinforcing grid is interwoven with the support material, and includes a regular array of horizontal and vertical wires which are welded together at their intersections, with each such weld in registry with one of the openings. The vertical wires are arranged across the front face of the support material, while the horizontal wires are arranged in two wire courses; a first horizontal wire course arranged across the front face of the support material and a second horizontal wire course arranged across the back face of the support material. The wires of the second horizontal wire course engage the paper webs to thereby attach the support material to the wire grid. The wires of the first horizontal wire course are held away from the support material by furring crimps in the vertical wires, thus allowing a full thickness of plaster to be applied between the support paper and the wire mesh to the depth of the fur.

Prior art U.S. Patent #5,481,843, issued 1/9/1996 to Kreikemeier, claims a lath for use in mounting plaster and the like to a substrate. The lath comprises a substantially planar, thermo-plastic grid that includes a plurality of first elongate, relatively flat strands extending laterally in a first direction and a plurality of second elongate strands extending laterally and transversely of the first elongate strands. The grid has a generally smooth side, wherein the first elongate strands and the second elongate strands define a plurality of openings that extend transversely through the grid, the second elongate strands comprise spacer portions positioned opposite the smooth side of the grid for spacing the

grid a selected distance away from the substrate for allowing plaster to be introduced between the lath and the substrate without requiring the use of furring strips.

Prior art U.S. Patent #5,287,673, issued 2/22/1994 to Kreikemeier, describes a lath for use in mounting plaster and the like to a substrate. The lath comprises a substantially planar, thermo-plastic grid that includes a plurality of first elongate, relatively flat strands that extend laterally in a first direction and a plurality of second elongate strands that extend laterally and transversely of the first elongate strands. The grid has a generally smooth side, wherein the first elongate strands and the second elongate strands define a plurality of openings that extend transversely through the grid, the second elongate strands comprise spacer portions positioned opposite the smooth side of the grid for spacing the grid a selected distance away from the substrate for allowing plaster to be introduced between the lath and the substrate without requiring the use of furring strips.

Prior art U.S. Patent #4,942,670, issued 7/24/1990 to Brandt, concerns an adhesive template tape for aligning of building construction members, particularly for establishing of locations and spacing for equally spaced construction members such as, for instance, studs in wall framing construction. The adhesive template tape includes longitudinally equidistantly spaced, visually contrasting fields corresponding to standardized spacings and thickness sizes of building construction members. In use, the adhesive template tape is adhesively affixed to and along construction members, and other construction members are aligned with the visually contrasting fields on the tape and fastened thereover.

Prior art U.S. Patent #5,924,213, issued 7/20/1999 to Lee, illustrates construction material bearing numerical measurement indicia thereon. The numerical measurement indicia are placed along the width and length of sheet material like plywood or drywall to aid in cutting and nailing to the frame. The linear construction material also contains  
5 numerical measurement indicia in a lengthwise direction to assist in cutting and affixing to other structures.

What is required is a welded wire fabric lath product that has stud spacing indicators for use in cementitious material or stucco application, which will reduce the need for measurement or marking and consequently save time and eliminate the potential  
10 for human error.

#### **Summary of the Invention**

An object of the present invention is to provide a welded wire and woven wire fabric lath product that has stud spacing indicators for use in cementitious material or stucco application, which will reduce the need for measurement or marking and  
15 consequently save time and eliminate the potential for human error.

Another object of the present invention is to provide stud spacing indicators that are incorporated by adding a furring detail.

A further object of the present invention is to provide stud spacing indicators for products that already have furring details by a placing a different shape of furring at the  
20 appropriate spacing.

Yet another object of the present invention is to provide stud spacing indicators for products that do not incorporate furring details by creating an indentation or other distinguishing mark at the appropriate spacing.

An auxiliary object of the present invention is to provide stud spacing indicators  
5 may also be created by application of a colored material to the wire or using a different colored wire at the appropriate spacing.

Once again another object of the present invention is to provide a simple addition to an existing manufacturing process, which the manufacturer could apply with little cost or interruption to an existing production system.

10 In brief, stud spacing indicators applied to or built into the welded wire and woven wire fabric lath which is used with cementitious exterior wall coating systems. The stud spacing indicators may be created by adding a furring detail. Products that incorporate furring details may have a different shape of furring incorporated to mark the appropriate spacing. Products that do not incorporate furring details may have an  
15 indentation or other distinguishing mark provided at the appropriate spacing. The stud spacing indicators may also be created by application of a colored material to the wire or using a different colored wire at the appropriate spacing.

An advantage of the present invention is that it has pre-measured stud spacing indicators.

20 Another advantage of the present invention is that it eliminates the potential for human error.

An additional advantage of the present invention is that it saves time.

Yet another advantage of the present invention is that it keeps construction labor costs down.

One more advantage of the present invention is that it is a simple addition to an existing manufacturing process.

5        Still another advantage of the present invention is that it is inexpensive to manufacture.

#### **Brief Description of the Drawings**

These and other details of my invention will be described in connection with the accompanying drawings, which are furnished only by way of illustration and not in  
10    limitation of the invention, and in which drawings:

FIG. 1 is a partial perspective view of a welded wire stucco mesh lath using different colored wire to indicate stud spacing;

FIG. 2 is a partial perspective view of a welded wire stucco mesh lath using added wire details to indicate stud spacing;

15        FIG. 3 is a partial perspective view of a welded wire stucco mesh lath using different shaped furrers to indicate stud spacing;

FIG. 4 is a partial perspective view of a welded wire stucco mesh lath using colored material added to the lath to indicate stud spacing;

20        FIG. 5 is a partial plan view of a woven wire stucco mesh lath using different colored wire to indicate stud spacing;



**Best Mode for Carrying Out the Invention**

In FIGS. 1-5, a wire lath system 20A-20E indicates stud spacing for use in a cementitious exterior wall coating where backing material or sheathing conceal wall the studs 30 from view. The system 20A-20E comprises a wire lath sheet 20A-20E having a mesh of spaced wire formed in a geometric pattern. The lath sheet 20A-20E may be installed over a sheet of material 40 covering a series of studs 30 from view and is attached to the series of studs 30 through the sheet of material 40 so that a flat surface of a cementitious wall may be formed over and encompass the lath sheet 20A-20E. The lath sheet 20A-20E comprises a series of stud indicator wires 21A-21D at spaced intervals in the geometric pattern of the spaced wire corresponding to the stud 30 spacing. The series of stud indicator wires 21A-21D are formed in the lath sheet 20A-20E as an integral part of the wire structure, and bear a visual indicator to distinguish the stud indicator wires 21A-21D from the other wires of the lath sheet 20A-20E to indicate the location of the studs 30.

The visual indicator may comprise a physical feature formed as an integral part of the stud indicator wire structure, such as the additional wire structure of added additional wire structure details such as furring details 21B of FIG. 2 in areas where adjacent wires do not bear furring, or differently shaped furring 21C, shown in FIG. 3, in the stud indicator wire, which is visually distinguishable from the other furring 23. The visual indicator may comprise a visual quality of the stud indicator wire 21A, such as the different color stud indicator wire 21A of FIGS. 1 and 5. A differently colored wire 21A may be used for the stud indicator wire 21A than the color used for the other wire, for

contrast and ease of use. The differently colored wire 21A may comprise a pre-painted wire or a colored galvanized wire. Alternately, the visual indicator may comprise an additional element added to the stud indicator wire that is not added to the other wire such as an added piece of colored material 21D of FIG. 4, which covers a portion of the  
5 stud indicating wire.

In FIGS. 1-4, the lath sheet 20A-20D comprises a welded wire mesh of orthogonally intersecting wires and the stud indicator wires 21A-21D each run straight across the lath sheet 20A-20D in a single strand corresponding to a centerline of a stud  
30. Alternately, the lath sheet 20E, shown in FIG. 5, comprises a woven wire mesh lath  
10 formed in a pattern having geometrically shaped wires interconnected by straight wires in an alternating series in each line across the lath sheet 20E. The alternating straight lines of each of the stud indicating wires 21A correspond to the centerline of a stud 30. The lathe 20A-20E may further incorporate felt or paper backing 40 or be applied over backing 40 that has been previously installed.

15 In practice, a barrier sheet material 40 is stapled, nailed or glued to the studs 30, or applied to the back of the welded wire lath 20A-20E, thereby concealing the studs 30 from view. The metal lath 20A-20E, such as a self-furred hexagonal woven wire lath ("chicken wire") or a welded wire fabric lath, is applied over the barrier sheet 40 and attached to the studs 30 with staples or furring nails. To attach to the lathe sheet 20A-  
20 20E, the installer would measure from the edge of an existing wall and locate a first concealed stud 30 and align the first stud indicator wires 21A-21D of the lathe sheet 20A-20E with the first stud 30. The lathe sheet 20A-20E would be attached by fasteners driven

through the first stud indicator wire 21A-21D into the first stud 30. The rest of the lathe sheet 20A-20E would be rolled out and/or placed in position against the wall. The lathe sheet 20A-20E would be fastened to the succeeding studs 30 without measuring, by simply driving the fasteners into the locations designated by the stud spacing indicators 21A-21D. The installer will not be required to measure the position of the succeeding studs 30, which will result in savings of time and cost, more consistent embedment and a higher quality of installment.

It is understood that the preceding description is given merely by way of illustration and not in limitation of the invention and that various modifications may be made thereto without departing from the spirit of the invention as claimed.